IN THE CLAIMS

Please substitute the following amended claim(s) for corresponding claim(s) previously presented. A copy of the amended claim(s) showing current revisions is attached.

1. (Amended) A method of cleaning a machine component using a laser beam, the method comprising:

programming a controller coupled to a laser source for controlling the laser source of the laser beam to perform laser ablation; and

directing the laser beam , at the machine component surface for vaporizing surface contaminants and coatings deposited on said surface without changing base material properties of said machine component.

all

2. (Amended) The method of claim 1, further comprising:

coupling the controller to a computer system having a processor and a database;

loading the database with machine component data and corresponding laser power related data for ablating surface contaminants or coatings from surface;

providing a detector to monitor the ablation of surface contaminants or coatings, and provide feedback data to the computer system;

comparing the feedback data with predetermined data to determine progress of ablation; and

A12 controlling the laser source depending on the comparison step.

6. (Amended) The system as in claim 4, further comprising:

a computer system coupled to the controller; and

a detector disposed adjacent the machine component to monitor the progress of laser ablation, the detector providing data of the monitored progress to the computer system for causing the controller to vary the power of the laser beam from the laser source.

7. (Amended) The system as in claim 6, where the computer system comprises:

a processor having a comparator; and

a database for storing machine component data, and respective laser power related data for causing laser ablation of the surface.

12
A13

8. (Amended) A laser-based system for cleaning a machine component, comprising:

a controller coupled to a laser source for controlling the laser source to perform laser ablation;

means for directing a laser beam at a surface of the machine component for vaporizing surface contaminants or coatings deposited on said surface without changing base material properties of said component;

a computer system having a processor and a database, the computer system communicatively coupled to the controller, and wherein the database is loaded with machine component data and corresponding laser power related data for ablating surface contaminants or coatings from the component;

a detector disposed adjacent to the [turbine or generator] component to monitor progress of vaporization of the surface contaminants or coatings, and provide feedback data to the computer system;

a comparator for comparing the feedback data with predetermined data to determine progress of vaporization; and

means for controlling the laser source depending on the comparison step.

9. (Amended) A laser-based method for cleaning a machine component, the method comprising:

controlling a laser source to apply a laser beam for performing laser ablation;

directing the laser beam towards a component surface for vaporizing surface contaminants or coatings deposited on the component surface without changing base material properties of the component;

communicatively coupling a computer system having a processor and a database to the controller;

loading the database with data related to the component and corresponding laser power related data for ablating contaminants and coatings from respective components;

monitoring ablation process of the component using a detector, the detector being disposed adjacent to the component;

receiving feedback data from the detector at the computer system;

comparing the feedback data with predetermined data in a comparator to determine progress of ablation; and

controlling the laser source depending on the comparison step.

10. (Amended) An apparatus for cleaning a generator or turbine components using a laser beam, comprising:

means for controlling a laser source to perform laser ablation; and

means for directing a laser beam at a generator or turbine component surface for vaporizing surface contaminants or coatings deposited on said generator or turbine component surface without changing base material properties of said generator or turbine components.

11. (Amended) The apparatus as in claim 10, further comprising:

a12 a controller communicatively coupled to a computer system having a processor and a database ;

means for loading the database with turbine or generator component data and corresponding laser power related data for ablating surface contaminants or coatings from the generator or turbine components;

means for monitoring ablation process and providing feedback data to the computer system;

means for comparing the feedback data with predetermined data to determine progress of ablation; and

means for controlling the laser source depending on the comparison step.